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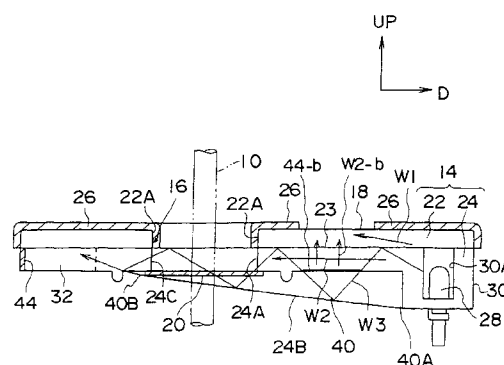
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(54) Lighting device for zigzag-operated shift lever

(57) A lighting device for a zigzag-operated shift lever (10), wherein an indicator plate (14) is light-transmissible, the indicator plate (14) has a two-layer structure having an upper member (22), in which the upper surface other than the area of a position indicator is shaded and the position indicator (18) is illuminated by lighting means (28), and a lower member (24), in which the light from the lighting means (28) is transmitted to the peripheral portion of a operation groove (16) at the indicator plate (14) so that the peripheral portion of the operation groove (16) is illuminated. A portion of the light from the lighting means (28) passes through the upper member (22) so that the position indicator (18) is illuminated. Because nothing shades the upper surface of the lower member (24), the remaining portion of the light is repeatedly reflected by the border between the upper and lower members (22;24) and by the lower surface of the lower member (24). The light is transmitted to the peripheral portion of the operation groove (16) within the lower member (24). As a result, the area of the position indicator (18), the side surfaces of the operation groove (16) at the driver's seat side and the front passenger's seat side are illuminated.

FIG. 1

**EP 0 685 668 A3**



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EUROPEAN SEARCH REPORT

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	US 4 991 535 A (NISSAN MOTOR COMPANY LTD.) * the whole document *	1-9	F16H63/42 F16H59/10 G05G1/28
A	PATENT ABSTRACTS OF JAPAN vol. 012, no. 339 (P-757), 12 September 1988 & JP 63 098713 A (TOYOTA MOTOR CORP;OTHERS: 01), 30 April 1988, * abstract *	1-9	
A	US 5 159 892 A (OHI SEISAKUSHO CO.; NISSAN MOTOR CO.,LTD.) * the whole document *	1-9	
A	US 4 137 864 A (W.R. LAUPER) * abstract; figures 1-8 *	1-9	
A	US 4 980 803 A (J.W. RICHMOND) * abstract; figure 11 *	1-9	
A	US 4 765 701 A (L.W. CHESLAK) * the whole document *	1-9	TECHNICAL FIELDS SEARCHED (Int.Cl.6)
A	PATENT ABSTRACTS OF JAPAN vol. 018, no. 408 (M-1647), 29 July 1994 & JP 06 117525 A (TOKAI RIKI CO LTD;OTHERS: 01), 26 April 1994, * abstract *	1-9	F16H
A	PATENT ABSTRACTS OF JAPAN vol. 013, no. 291 (P-893), 6 July 1989 & JP 01 073406 A (TOKAI RIKI CO LTD), 17 March 1989, * abstract *	1-9	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 29 September 1997	Examiner Verdonck, J
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